

### REMARKS

Upon entry of this Amendment, claims 39-61 and 63-70 are pending for consideration by the Examiner. The Examiner's indication that claims 39-50, 63, and 64 are allowed, and that claims 69 and 70 contain allowable subject matter is gratefully acknowledged.

The Examiner has rejected claims 51-61 and 65-68 under 35 U.S.C. 103(a) as being unpatentable over Pauer (US 6,425,288) in view of Walkowski, et al. (US 5,341,679). The details of the Examiner's rejection are set forth in section 2 of the Office action.

Independent claim 51 recites:

51. A potentiometer comprising:  
a wiper;  
a resistor plate having a resistor path thereon;  
a plurality of resistor traces coupled to the resistor plate and positioned along the resistor path in spaced increments; and  
a button coupled to the wiper for sliding movement along the resistor path in a first direction and a second direction opposite the first direction, the button including an arcuate surface configured to slide along the resistor path and span the increment between two adjacent resistor traces such that a jouncing motion of the button is substantially prevented as the button moves along the resistor path.

Independent claim 51 recites, among other things, a plurality of resistor traces coupled to the resistor plate and positioned along the resistor path in spaced increments. The button that moves along the resistor path includes an arcuate surface configured to span the increment between two adjacent resistor traces such that a jouncing motion of the button is substantially prevented as the button moves along the resistor path.

In the Response to Arguments section of the Office action, the Examiner states that "Pauer discloses that the button (e.g. sliding contact 10) has a curved/arcuate surface that is configured to slide/glide along the resistor path. While Pauer does not specifically disclose configuring the button to prevent a jouncing motion, Pauer, as depicted in Fig. 2, discloses a button (10) that has a curved surface which in turn allows a smooth gliding motion of the button over the resistor traces (e.g., sliding tracks 7, 8). This teaching clearly infers and or



In contrast, the arcuate surface 106 of the button of the present invention is configured to span the increment between two adjacent resistor traces such that a jouncing motion of the button is substantially prevented as the button moves along the resistor path. With the inventive contact surface 106, the button 66 will not sequentially fall into and rise out of the gaps between resistor traces, but rather will smoothly glide over those gaps without any jouncing motion.

For all of these reasons, independent claim 51 is allowable. Dependent claims 52-56, 65, 66, 69, and 70 ultimately depend from claim 51 and are therefore allowable for the reasons set forth above and for other reasons relating to the features and elements recited in each dependent claim. For example, dependent claim 52 further recites that the button defines a longitudinal axis and is elongated in a direction substantially parallel to the longitudinal axis. The contact buttons of Pauer are generally circular in shape and are therefore not elongated in any direction. For this reason, dependent claim 52 contains additional patentable subject matter.

Independent claim 56 recites:

56. A potentiometer comprising:  
a wiper;  
a resistor plate having a resistor path thereon; and  
a button coupled to the wiper for sliding movement along the resistor path, the button including  
an arcuate surface, wherein at least a portion of the surface is in sliding contact with the resistor path; and  
an edge portion tangent with the arcuate surface, the edge portion and the resistor path defining an edge gap therebetween of no more than about 0.10 mm.

Independent claim 56 recites, among other things, a button having an arcuate surface 106 with at least a portion of that arcuate surface in sliding contact with the resistor path, and an edge portion 118 tangent with the arcuate surface. The edge portion and the resistor path define an edge gap S' therebetween of no more than about 0.10 mm. This feature is illustrated in Fig. 8 above. By creating and minimizing the claimed edge gap, the likelihood that a piece of debris on the resistor path can enter and slide between the arcuate surface and the resistor path is significantly reduced.

In her statement that “Pauer discloses that the curved surface of the button (e.g., sliding contact 10) touches the surface of the resistor track (7) forming an edge portion tangent with the arcuate portion of the button (e.g., the sliding contact 10),” the Examiner appears to be arguing that the Pauer button has an edge portion tangent to the curved surface at the point where the button contacts the resistor track. The Examiner then continues on to state that “Pauer does not specifically disclose edge portion and the resistor path define a gap of no more than .10 mm. However, one having ordinary skill in the art knows that the curved surface can easily be shaped to include the claim specifications as a design choice.”

The Applicant respectfully disagrees. There is simply no teaching or suggestion in Pauer of any edge portion tangent with an arcuate surface. The sliding contacts 10 and 11 of Pauer have a continuous, smooth arcuate surface and completely lack any edge portion tangent with the arcuate surface. The point where the Pauer button contacts the resistor track does not form an edge portion tangent to the arcuate surface, but is simply a continuation of the smooth, curved underside of the button. If it is the Examiner’s contention that there is some deformation of the Pauer button at the point where the button contacts the resistor track, there is absolutely no basis in Pauer to support this interpretation.

Because Pauer does not in any way teach or suggest a contact button having an edge portion tangent to the arcuate portion, it provides no suggestion or motivation for an edge gap of no more than about 0.10 mm defined between an edge portion and the resistor path. The sliding contacts of Pauer are precisely the type of prior art contact buttons described in the Applicant’s disclosure and that have been improved upon by the claimed invention. The only teaching or suggestion for adding an edge portion tangent with the arcuate surface to define an edge gap of no more than about 0.10 mm is found in the Applicant’s own disclosure.

For these reasons, independent claim 56 is allowable. Dependent claims 57-61, 67, and 68 ultimately depend from claim 56 and are therefore allowable for the reasons set forth above and for other reasons relating to the features and elements recited in each dependent claim. For example, dependent claim 57 further recites that the button defines a longitudinal axis and is elongated in a direction substantially parallel to the longitudinal axis. The contact

buttons of Pauer are generally circular in shape and are therefore not elongated in any direction. For this reason, dependent claim 57 contains additional patentable subject matter.

For all of the reasons discussed above, reconsideration of the rejections and allowance of claims 51-61 and 65-70, in addition to the previous allowance of claims 39-50, 63, and 64 are respectfully requested.

The undersigned is available for telephone consultation at any time.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Richard L. Kaiser". The signature is written in a cursive, flowing style.

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